

## CLAIMS

What is claimed:

1. A method for depleting a sample of at least three proteins comprising the step of contacting a sample with at least one chromatographic medium, the at least one  
5 chromatographic medium being capable of removing albumin, IgG, and a third abundant protein from the sample.
2. The method of claim 1 wherein the at least one chromatographic medium comprises two or more different chromatographic surfaces for removing two or  
10 more different proteins.
3. The method of claim 1 wherein the sample is one or more of blood plasma, blood serum, cerebrospinal fluid, and urine.
- 15 4. The method of claim 1 wherein the chromatographic medium is present in a chromatography column.
5. The method of claim 4 wherein the chromatographic column comprises particles.
- 20 6. The method of claim 4 wherein the chromatographic column comprises an immunoaffinity chromatography surface.
7. The method of claim 1 wherein the chromatographic medium, comprises a chromatography disk.  
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8. The method of claim 1 wherein the sample is moved with a liquid chromatography apparatus.

9. An apparatus for analyzing a sample of molecules comprising a liquid chromatography pumping apparatus and at least one chromatographic medium, the at least one chromatographic medium being capable of removing albumin, IgG, and a third abundant protein from the sample.
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10. The apparatus of claim 9 wherein the at least one chromatographic medium comprises one or more chromatography columns arranged in series with another chromatography column.
- 10 11. The apparatus of claim 9 wherein the at least one chromatographic medium comprises one or more chromatography disks arranged in series with a chromatography column.
12. The method of claim 1 wherein the third abundant protein is selected from the group consisting of transferrin, orosomucoid, fibrinogen, immunoglobulin A, haptoglobin, alpha-2-macroglobulin, immunoglobulin M, C3 complement, and alpha-1-antitrypsin.
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13. The method of claim 1 further comprising removing a fourth abundant protein.
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14. The method of claim 13 wherein the fourth abundant protein is selected from the group consisting of transferrin, orosomucoid, fibrinogen, immunoglobulin A, haptoglobin, alpha-2-macroglobulin, immunoglobulin M, C3 complement, and alpha-1-antitrypsin.
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15. The method of claim 14 further comprising removing a fifth abundant protein.
16. The method of claim 15 wherein the fifth abundant protein is selected from the group consisting of transferrin, orosomucoid, fibrinogen, immunoglobulin A,

haptoglobin, alpha-2-macroglobulin, immunoglobulin M, C3 complement, and alpha-1-antitrypsin.

17. The method of claim 16 further comprising removing a sixth abundant protein.
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18. The method of claim 17 wherein the sixth abundant protein is selected from the group consisting of transferrin, orosomucoid, fibrinogen, immunoglobulin A, haptoglobin, alpha-2-macroglobulin, immunoglobulin M, C3 complement, and alpha-1-antitrypsin.
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19. A device for substantially removing a protein from a sample comprising, in serial fluidic communication, a chromatography column and a chromatography disk.
20. A device for depleting a sample of at least three proteins comprising:
- 15           an immunoaffinity chromatography surface for each protein to be depleted from the sample where the chromatographic surfaces are arranged in serial fluidic communication as a single chromatographic column.
21. The device of claim 20, wherein the proteins to be depleted from the sample
- 20           comprise albumin, transferrin and immunoglobulin G.
22. The device of claim 21, wherein the proteins to be depleted from the sample further comprise haptoglobin, alpha-1-antitrypsin and immunoglobulin A.
- 25   23. A device for depleting a sample of at least three proteins comprising:
- a first chromatography column functionalized to substantially remove albumin from the sample;

a second chromatography column in serial fluidic communication with the first chromatography column and functionalized to substantially remove immunoglobulin G from the sample; and

5 a first chromatography disk in serial fluidic communication with the second chromatography column and functionalized to substantially remove a third protein from the sample.

24. The device of claim 23, wherein the third protein is selected from the group consisting of transferrin, orosomucoid, fibrinogen, immunoglobulin A,  
10 haptoglobin, alpha-2-macroglobulin, immunoglobulin M, C3 complement, and alpha-1-antitrypsin.
25. The device of claim 23, further comprising a second chromatography disk in serial fluidic communication with the first chromatography disk and  
15 functionalized to substantially remove a fourth protein from the sample.
26. The device of claim 25, wherein the fourth protein is selected from the group consisting of transferrin, orosomucoid, fibrinogen, immunoglobulin A,  
20 haptoglobin, alpha-2-macroglobulin, immunoglobulin M, C3 complement, and alpha-1-antitrypsin.
27. The device of claim 25, further comprising a third chromatography disk in serial fluidic communication with the second chromatography disk and functionalized to substantially remove a fifth protein from the sample.  
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28. The device of claim 27, wherein the fifth protein is selected from the group consisting of transferrin, orosomucoid, fibrinogen, immunoglobulin A, haptoglobin, alpha-2-macroglobulin, immunoglobulin M, C3 complement, and alpha-1-antitrypsin.

29. The device of claim 27, further comprising a fourth chromatography disk in serial fluidic communication with the third chromatography disk and functionalized to substantially remove a sixth protein from the sample.

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30. The device of claim 29, wherein the sixth protein is selected from the group consisting of transferrin, orosomucoid, fibrinogen, immunoglobulin A, haptoglobin, alpha-2-macroglobulin, immunoglobulin M, C3 complement, and alpha-1-antitrypsin.